Amendments to the Claims:

Claim 1 (Cancelled)

2. (Currently Amended) The computer implemented method of claim [[1]] 30, wherein the factor f is related to the square root of the length of the sequence is given by $f=\sqrt{(t_1-t_0)}$.

3. (Currently Amended) The computer implemented method of claim [[1]] 30, wherein the ~~real-world data~~ data samples are [[is]] selected from data pertaining to members of the group consisting of: stocks, stock options, bonds, currency exchange rates, microeconomic values, macroeconomic values, stock exchanges, personal stock portfolios, turnover, return on net asset, inflation rate, unemployment, sports, science, opinion polls, sports team performance, technology, physical experiments, and sociology; and

wherein said dimension is selected from the group consisting of: time, length, energy, and speed.

4. (Currently Amended) The computer implemented method of claim [[1]] 30 further comprising ~~the further steps of~~:

~~(g) providing and storing with the electronic processor~~ calculating a probability distribution of the net change ~~in data for a plurality of points~~;

[[(h)]] ~~providing and storing with the electronic processor~~ determining a probability threshold value; and

[[(i)]] determining ~~and storing with the electronic processor~~ a ~~sub-space of the phase space~~ region within the Cartesian coordinate system associated with ~~based on~~ the probability distribution and the probability threshold value.

5. (Previously Presented) The computer implemented method of claim 4 wherein the probability distribution is a gaussian distribution.

6. (Currently Amended) The computer implemented method of claim 4 wherein the probability threshold value is equal to one of the ~~volatility~~ standard deviation and the ~~volatility~~ standard deviation times an integer value.

7. (Currently Amended) The computer implemented method of claim 4 wherein the ~~sub-space~~ region has the form of one of a cone and the projection of a cone.

8. (Withdrawn- Currently Amended) The method of claim [[1]] 30 wherein each of the data samples are correlated to a price value and the difference is correlated to a return.

9. (Withdrawn- Currently Amended) The method of claim [[1]] 30 wherein each data sample is an intraday price fixing.

Claim 10 (Cancelled)

11. (Currently Amended) The computer implemented method of claim 4 further comprising ~~the step of providing as an output of the electronic processor a display of~~ displaying a boundary of the ~~sub-space~~ region within the Cartesian coordinate system.

12. (Currently Amended) The computer implemented method of claim [[10]] 30 ~~comprising the further step of~~ further comprising displaying a number of K frames FRj, each of the frames FRj visualizing one of a corresponding set of points p0 to pi and a sub-set of the set of points.

13. (Currently Amended) The computer implemented method of claim [[1]]30, wherein ~~providing as an output of the electronic processor a display includes~~ further comprising:

decreasing the brightness and/or contrast of a set of points displayed on the first axis and the second axis, wherein the set of points indicate the net change in value between each set of successive data samples ~~points previously displayed~~.

14. (Withdrawn- Currently Amended) The method of claim [[1]] 30 wherein the first sequence covers an intraday period.

15. (Withdrawn- Currently Amended) The method of claim [[1]] 30 further comprising

g) defining a hierarchical tree structure, the tree structure providing an index structure for accessing a database; and

h) providing a plurality of sequences each composed of data samples,

i) storing said plurality of sequences of data samples, the data samples being ordered in a time series, and each of the sequences being associated with a leaf of the hierarchical tree structure.

16. (Cancelled)

17. (Withdrawn) The method of claim 15 wherein the database contains a plurality of files, each file storing a predefined set of sequences with the set of sequences stored in each file being associated with a specific distinct entity and being accessible by an identifier of the specific distinct entity.

18. (Withdrawn) The method of claim 17 wherein the specific distinct entity is a predetermined group of stock values, a stock portfolio or a stock or other financial index.

19. (Cancelled)

20. (Withdrawn) The method of claim 15 further comprising

j) storing a number of user defined portfolios which are retrievable by a key;

k) retrieving sequences of data samples corresponding to a user defined portfolio upon a user request by querying the database;

l) providing the user with the sequences of data samples;

m) updating the sequences of data samples at regular time intervals; and

n) discontinuing the updating process when a user has failed to perform an action during a predefined time interval.

21-22. (Canceled)

Claim 23 (Cancelled)

24. (Currently Amended) The ~~client computer~~ information processing system of claim [[23]] 33 ~~further comprising a second plotter for determining~~ wherein the mapper is further adapted to determine a ~~sub-space of the phase space in which the~~ region within the Cartesian coordinate system in which a point is situated with a probability being equal to a predetermined probability value, the determination of the sub-space being made responsive to the predetermined probability value and a probability distribution.

Claims 25-29 (Cancelled)

30. (New) A computer implemented method for displaying volatility between a successive sequence of data samples in a set of data samples, the method comprising:

selecting a successive sub-sequence s(*p*) of data samples for analysis in a set S of data samples s(*p*): = $(p_{t0}, \ldots, p_{t1})$;

calculating a standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(*p*) of data samples to derive an unscaled volatility thereof;

scaling with a scale factor *f* the standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(*p*) of data samples to derive a scaled volatility of the sub-sequence s(*p*) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$, the scale factor *f* being dependent on a length of the sub-sequence s(*p*);

calculating a net change in value $R_{t,t+1}(p)$ between each set of successive data samples within the sub-sequence s(*p*) of data samples;

mapping to a Cartesian coordinate system with a first axis representing the net change in value between each set of successive data samples within the sub-sequence s(*p*) of data samples $R_{t,t+1}(p)$ and a second axis representing the scaled volatility of the sub-sequence s(*p*) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$; and

outputting to a display on the Cartesian coordinate system the net change in value between each set of successive data samples within the sub-sequence s(*p*) of data samples $R_{t,t+1}(p)$ in relation to the scaled volatility of the sub-sequence s(*p*) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$ to indicates to a user the scaled volatility between each set of successive data samples within the sub-sequence s(*p*) of data samples.

31. (New) The computer implemented method of claim 30, wherein the mapping further includes mapping to the Cartesian coordinate system with the first axis representing the net change in value between each set of successive data samples within the sub-sequence s(*p)* of data samples $R_{t,t+1}(p)$ and the second axis representing the scaled volatility of the sub-sequence s(*p)* of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$ using a logarithmic grid.

32. (New) The computer implemented method of claim 4, wherein the regions is displayed in the Cartesian coordinate system as a line.

33. (New) An information processing system for displaying volatility between a successive sequence of data samples in a set of data samples, the information processing system comprising:

a selector adapted to select a successive sub-sequence s(*p*) of data samples for analysis in a set S of data samples s(*p*): = (p_{t0}, . . . , p_{t1});

a calculator adapted to calculate a standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(*p*) of data samples to derive an unscaled volatility thereof;

a scaler adapted to scale with a scale factor *f* the standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(*p*) of data samples to derive a scaled volatility of the sub-sequence s(*p*) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$, the scale factor *f* being dependent on a length of the sub-sequence s(*p*);

wherein the calculator is further adapted to calculate a net change in value $R_{t,t+1}(p)$ between each set of successive data samples within the sub-sequence s(*p*) of data samples;

a mapper adapted to map to a Cartesian coordinate system with a first axis representing the net change in value between each set of successive data samples within the sub-sequence s(*p*) of data samples $R_{t,t+1}(p)$ and a second axis representing the scaled volatility of the sub-sequence s(*p*) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$; and

wherein the mapper is further adapted to output to a display on the Cartesian coordinate system the net change in value between each set of successive data samples within the sub-sequence s(*p*) of data samples $R_{t,t+1}(p)$ in relation to the scaled volatility of the sub-sequence s(*p*) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$ to indicates to a user the scaled volatility between each set of successive data samples within the sub-sequence s(*p*) of data samples.

34. (New) A computer program product for displaying volatility between a successive sequence of data samples in a set of data samples, the computer program produce comprising instructions for:

selecting a successive sub-sequence s(*p*) of data samples for analysis in a set S of data samples s(*p*): = (p_{t0}, . . . , p_{t1});

calculating a standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(*p*) of data samples to derive an unscaled volatility thereof;

scaling with a scale factor *f* the standard deviation $\overline{\sigma_{t_0,t_1}(p)}$ of the sub-sequence s(*p*) of data samples to derive a scaled volatility of the sub-sequence s(*p*) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$, the scale factor *f* being dependent on a length of the sub-sequence s(*p*);

calculating a net change in value $R_{t,t+1}(p)$ between each set of successive data samples within the sub-sequence s(*p*) of data samples;

mapping to a Cartesian coordinate system with a first axis representing the net change in value between each set of successive data samples within the sub-sequence s(*p*) of data samples $R_{t,t+1}(p)$ and a second axis representing the scaled volatility of the sub-sequence s(*p*) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$; and

outputting to a display on the Cartesian coordinate system the net change in value between each set of successive data samples within the sub-sequence s(*p*) of data samples $R_{t,t+1}(p)$ in relation to the scaled volatility of the sub-sequence s(*p*) of data samples $\overline{\sigma_{t_0,t_1}(p)} \cdot f$ to indicates to a user the scaled volatility between each set of successive data samples within the sub-sequence s(*p*) of data samples.